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EXAMINER	
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ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/737,209	SUN ET AL.	
	Examiner	Art Unit	
	SATH V. PERUNGAVOOR	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) *8-15,23-30 and 32* is/are withdrawn from consideration.

5)☒ Claim(s) *6,7,21 and 22* is/are allowed.

6)☒ Claim(s) *1,2,5,16,17,20 and 31* is/are rejected.

7)☒ Claim(s) *3,4,18 and 19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 November 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/17/2003; 02/12/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-7, 16-22 and 31, drawn to scene change detection, classified in class 348, subclass 700.

II. Claims 8-15, 23-30 and 32, drawn to character extraction, classified in class 382, subclass 185.

The inventions are distinct, each from the other because of the following reasons:

[1] Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination II has separate utility in character extraction of a scanned document. See MPEP § 806.05(d).

[2] The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

[3] Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

(a) the inventions have acquired a separate status in the art in view of their different classification;

(b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;

(c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);

(d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

[4] **Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined** even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention**.

[5] The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election

without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

[6] If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

[7] Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

[8] During a telephone conversation with Mr. J. Randall Beckers (Reg. No. 30,358) on March 27, 2008 a provisional election was made with traverse to prosecute the invention of group I, claims 1-7, 16-22 and 31. Affirmation of this election must be made by applicant in replying to this Office action. Claims 8-15, 23-30 and 32 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

[9] The disclosure is objected to because of the following informalities: Foreign priority applications should be cross-referenced after the title in the first page of the specification or through

an application data sheet (ADS). See 37 CFR 1.78 and MPEP § 201.11. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

[10] Claims 1, 2, 5, 16, 17, 20 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiong et al. ("Xiong") [NPL document titled, "Automatic video data structuring through shot partitioning and key-frame computing"] in view of Smith et al. ("Smith") [NPL document titled, "Video skimming for quick browsing based on audio and image characterization"].

Regarding claim 1, Xiong discloses the following claim limitations:

> A text change frame detection apparatus *(i.e. abstract)* that selects a plurality of video frames including text contents from given video frames, said apparatus comprising: a first frame removing unit *(i.e. key frame computing)* removing redundant video frames from the given video frames *[page 51, col. 2, para. 2]*; a third frame removing unit *(i.e. key frame pruning)* detecting and removing redundant video frames caused by image shifting *(i.e. camera motion)* from the given video frames *[page 52, col. 1, para. 1]*; and an output unit *(i.e. final key frames)* outputting remaining video frames as candidate ~~text~~ change frames *[page 64, col. 1, para. 4]*;

Xiong does not explicitly disclose the following claim limitations:

> a second frame removing unit removing video frames that do not contain a text area from the given video frames;

However, in the same field of endeavor Smith discloses the deficient claim limitations, as follows:

> a second frame removing unit *(i.e. selecting frames with text and ignoring others)* removing video frames that do not contain a text area from the given video frames *[page 11, section 3.2]*;

It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Xiong with Smith and refine Xiong's key frames further to include only text frames as shown by Smith, the motivation being that text frames provide better information about a scene *[page 8, para. 2]*.

Regarding claim 2, Xiong meets the claim limitations, as follows:

> The text change frame detection apparatus according to claim 1, wherein the first frame removing unit includes: an image block validation unit determining whether two image blocks in the same position in two video frames of the given video frames are a valid block pair *(i.e. determine M base windows)* that has an ability to show a change of image contents *[page 52, col. 2, para. 1]*; an image block similarity measurement unit *(i.e. computing the difference)* calculating a similarity of two image blocks of the valid block pair and determining whether the two image blocks are similar *[page 52, col. 2, para. 1]*; and a frame similarity judgment unit determining whether the two video frames are similar by using a ratio of a number of similar image blocks *(i.e. changed)* to

a total number of valid block pairs *(i.e. M) [page 52, col. 2, para. 1]*, and the first frame removing unit *(i.e. key frame)* removes a similar video frame as a redundant video frame *[page 51, col. 2, para. 2]*.

Regarding claims 5, 16, 17, 20 and 31 all claimed limitations are set forth and rejected as per discussion for claim 2.

Allowable Subject Matter

[11] Claims 3, 4, 18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

[12] Claims 6, 7, 21 and 22 are allowed.

Contact Information

[13] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Sath V. Perungavoor whose telephone number is (571) 272-7455. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Matthew C. Bella whose telephone number is (571) 272-7778, can be reached on Monday to Friday from 9:00am to 5:00pm. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dated: September 10, 2008

/Sath V. Perungavoor/

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